



State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

M/037/081

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April 10, 2000

Jerry Holliday
Holliday Construction, Inc.
700 East Brown Canyon Road
P.O. Box 502
Blanding, Utah 84511

RECEIVED

MAY 12 2000

DIVISION OF
OIL, GAS AND MINING

Re: Initial Review of Notice of Intention to Commence Large Mining Operations, Holliday Construction, Inc., Lime Ridge Mine, M/037/081, San Juan County, Utah

Dear Mr. Holliday:

The Division has completed a review of your Notice of Intention to Commence Large Mining Operations submission for the Lime Ridge Mine, located in San Juan County, Utah, which was received November 5, 1999. After reviewing the submission, the Division has several comments which will need to be addressed before tentative approval may be granted. The comments are listed under the applicable Minerals Rule heading as an attachment. Please format your response in a similar fashion. If possible, please provide a response to this review by *May 15, 2000*.

The Division will suspend further review of the Lime Ridge Mine notice until your response to this letter is received. If you have any questions in this regard you may contact me, Tony Gallegos, Doug Jensen, Lynn Kunzler, or Tom Munson of the Minerals Staff. If you wish to arrange a meeting to discuss this review, please contact us at your earliest convenience. Thank you for your cooperation in responding to this review in a timely fashion.

Sincerely,

D. Wayne Hedberg
Permit Supervisor
Minerals Regulatory Program

jb

Attachment: Division Review Comments

cc: John Blake, SITLA

REVIEW OF NOTICE OF INTENTION TO COMMENCE LARGE MINING OPERATIONS

Lime Ridge Mine

M/037/081

April 10, 2000

R647-4-104 - Filing Requirements and Review Procedures

The submission identifies the applicant as being a corporation. Please provide the name of the corporation to be listed as the operator for this notice. (AAG) *Holladay Construction, Inc.*

R647-4-104 - Operator's, Surface and Mineral Ownership

Please provide the name and address of the owners of record of the minerals to be mined. (LK)

Jerry Holladay P.O. Box 502 Blanding, Utah 84511

Please provide any state mineral lease number(s) and indicate whether the land owners have been notified in writing of this proposal. (AAG)

R647-4-105 - Maps, Drawings & Photographs

105.2 Surface facilities map

A measurement of the area impacted on the Surface Facilities Map, using the scale shown, gives approximately 2.1 acres. The impacted area described in the text of the submission is 12 new acres plus five (5) acres of existing disturbance. Surety calculations by the Division will not be possible until a scaled map of the proposed disturbance is received. Please provide a revised surface facilities map showing both the current disturbed area and the proposed disturbance. Area measurements from this revised map should agree with the acreage listed in the text of your submission. (AAG)

Please submit a mine plan map showing the mining sequence and projected annual disturbance for a minimum period of five years. (DJ)

105.3 Drawings or Cross Sections (slopes, roads, pads, etc.)

Please provide cross-sections of the affected area showing the present ground surface, the surface after the proposed mining has occurred, and the surface after final reclamation. Because the area of the plan is relatively flat and the maps furnished have 40-foot contours, please provide at least one cross-section running North to South, through the existing pit, and one cross section running through the proposed mining area. Please provide at least two cross-sections running East-West. These sections need to be drawn to scale for calculation purposes. (AAG)

Please provide a reclamation treatments map which is of the same scale as the surface facilities map. Please use cross hatching or color coding on this map to identify areas receiving different reclamation treatments. (AAG)

R647-4-106 - Operation Plan

106.2 Type of operations conducted, mining method, processing etc.

Please provide a narrative description of the mining operations. In this narrative please include a description of the mine equipment being used, the stockpiled products, waste stockpiles, and onsite processing equipment. (AAG)

106.3 Estimated acreages disturbed, reclaimed, annually.

Appendix 3 states 12 acres are proposed to be disturbed and five (5) acres of disturbed area are from previous activities, which would give a total project disturbance of 17 acres. This section of the submission states the disturbance is 12 acres total. Please explain these conflicting acreage figures and provide the correct information. (AAG)

106.4 Nature of materials mined, waste and estimated tonnages

The submission indicates there will be 40,000 cubic yards of material mined. Please clarify whether this figure represents annual production, or life of mine production? (DJ)

106.5 Existing soil types, location, amount

Please provide the results of a soil survey for the proposed area. The Natural Resources Conservation Service (formerly the Soil Conservation Service) may already have a soil survey which covers the proposed area. A copy of their report should provide most of the soils data that is needed. Please provide a soil analysis for the topsoil/overburden materials which will be salvaged and used for reclamation. This soil analysis needs to include: texture, pH, EC (conductivity), CEC (cation exchange capacity), SAR (sodium absorption ratio), % Organic Matter, Total N, available phosphorus (as P_2O_5), and potassium (as K_2O). This soil data will be used to determine if fertilizers or amendments may be needed to establish vegetation. (LK)

106.6 Plan for protecting & redepositing soils

Assuming there is only one inch of topsoil over five (5) acres which can be salvaged, would yield approximately 672 cubic yards of topsoil, not the 30 cubic yards described in this submission. Please explain these conflicting volumes. Please agree to seed stockpiled topsoil to protect it from erosion and to sign, or fence the stockpiles to protect these resources until used for reclamation. (LK)

106.7 Existing vegetation - species and amount

The vegetation at the site would be classified as a desert shrub community. Vegetation ground cover in the submission is reported as 30%, which would set the Division's 70% revegetation success standard at 21% vegetation ground cover. (LK)

106.8 Depth to groundwater, extent of overburden, geology

No information has been provided regarding groundwater in the area although it is apparent that the general area is very dry. Please describe the indications of groundwater closest to the mine operation, such as springs, wells, etc. Is the proposed mining expected to intercept ground water? Please explain why or why not. (TM)

106.9 Location & size of ore, waste, tailings, ponds

This notice states there is no overburden or reject materials produced by this project. Will all reject materials or fines from crushing be sold as product or will some materials be left on site? If so, what is the expected volume of these materials? (AAG)

R647-4-107 - Operation Practices

107.1 Public safety & welfare

107.1.12 Disposal of trash, scrap, debris

Please describe how trash and debris generated during operations will be disposed. (AAG)

107.1.13 Plugging or capping drill holes

Please confirm that no drill holes which will require plugging or capping are proposed in this project. (AAG)

107.1.14 Posting warning signs

Because this site is located on a county road, please post signs warning the public of heavy equipment operating in the area, or explain why this type of warning is unnecessary for public safety. (AAG)

107.2 Drainages to minimize damage

It is unclear in the submission whether the nearby ephemeral drainage will be impacted during active operations. Please describe any proposed drainage rerouting during active operations and show this rerouting on the surface facilities map. (TM)

107.3 Erosion control & sediment control

Please describe measures to be employed to prevent excessive erosion of topsoil and other soil materials which will be disturbed during active mining operations. (TM)

107.4 Deleterious material safely stored or removed

Please describe the locations and methods for storing fuels and other related products on site during operations. Please describe the typical volumes and types of fuels or lubricants stored on site. If onsite fuel storage is proposed, then secondary emergency containment measures must be provided sufficient to contain 110% of the total stored volume. (AAG)

107.5 Suitable soils removed & stored

Please refer to comments under R647-4-106.5 and 106.6. From the photos supplied, it appears that there may be more suitable soil material for reclamation (i.e. overburden materials) than what would typically be classified as topsoil. Overburden materials and fines should be saved for reclamation so that a minimum one foot depth of material is provided for seedling establishment. The overburden materials may require amendments to make them suitable as a plant growth medium. Please provide an analysis of this overburden material using the same parameters as listed for the soils analysis under section 106.5. (LK)

R647-4-109 - Impact Assessment

109.1 Impacts to surface & groundwater systems

See comments under section R647-4-107.2. (TM)

109.2 Impacts to threatened and endangered species or habitats.

Appendix 4 states that no threatened or endangered flora or fauna species were observed on the proposed impact site. Please reference any clearance surveys performed for the existing mine operation and the proposed site. Please provide documentation of credentials for the individuals or company performing these clearances. Please include similar documentation for cultural surveys as well. (AAG)

109.4 Slope stability, erosion control, air quality, safety

Due to the close proximity of this mine operation to the San Juan River corridor, you are encouraged to keep dust generation to a minimum. Please describe any measures to be taken to minimize the impacts to air quality in this area, or explain why these measures are unnecessary. Please provide the Division with documentation of this operation complying with State Division of Air Quality permitting requirements. (AAG)

R647-4-110 - Reclamation Plan

110.1 Concurrent & post mining land use

Please describe the present land use as well as the intended post mining land use for this area. (DJ)

110.2 Roads, highwalls, slopes, drainages, pits, etc., reclaimed

If any natural drainage channels will be impacted during mining activities, please describe your proposed reclamation plans for reestablishment of the drainage patterns after mining ceases. (TM)

Please acknowledge that no highwalls steeper than forty-five degrees will remain after final reclamation. Highwalls remaining steeper than forty-five degrees require a variance request and supporting justification. (AAG)

110.3 Description of facilities to be left (post mining use)

With the exception of the county road which traverses the site, the submission implies that all other mining related disturbances will be reclaimed. Please confirm this understanding. (LK)

110.5 Revegetation planting program

Please describe the proposed revegetation plan, including soil replacement, soil amendments, seedbed preparation, seed mix to be used (include species and rate per acre), seeding methods, and timing. A minimum of one foot of soil material (overburden, fines, and topsoil) will need to be replaced. It is likely that the soil materials will need to be amended with 5 - 10 ton per acre of composted manure. The final rate of amendments cannot be determined until results of the soil and overburden analysis requested under R647-4-106.5 and 107.5 are submitted. Areas of compaction will need to be ripped. The final reclaimed surface should be left in a roughened condition to promote seed and water retention, and minimize erosion. Reclamation should be performed so the area is ready for seeding in late October. Given the relatively small size of the affected area,

Page 5
Lime Ridge Mine
Initial Review
M/037/081
April 10, 2000

broadcast seeding is the most likely seeding method to be used. Attached is a recommended seed mix for your consideration. SITLA has approved the use of this seed mix via a phone call to the Division. If this seed mix is acceptable, please acknowledge your acceptance and include it in your final reclamation plan. (LK)

R647-4-111 - Reclamation Practices

111.1 Public safety & welfare

1.14 Posting warning signs

See comments under R647-4-107.1.14. (DJ)

111.3 Erosion & sediment control

See comments under R647-4-107.3. (TM)

111.12 Topsoil redistribution

Please refer to comments under R647-4-107.5. (LK)

R647-4-112 - Variance

No variances were requested in this submission. (DJ)

R647-4-113 - Surety

A reclamation surety estimate was not provided in this submission. A surety amount cannot be calculated by the Division until concerns stated in this review are addressed. (AAG)

R647-4-115 - Confidential Information

No confidential information was identified in this submission. (DJ)

Attachment: Seedmix

Recommended Revegetation Species List
for

Holliday Construction, Inc.
Lime Ridge mine
M/037/081

<u>Common Name</u>	<u>Species Name</u>	<u>*Rate lbs/ac (PLS)</u>
Hycrest crested wheatgrass	<u>Agropyron cristatum</u>	1.0
Luna pubescent wheatgrass	<u>Agropyron tricophorum</u>	2.0
Boizoisky russian wildrye	<u>Elymus junceus</u>	1.5
Indian ricegrass	<u>Oryzopsis hymenoides</u>	2.0
Ladak alfalfa	<u>Medicago sativa</u>	1.0
Yellow Sweetclover	<u>Melilotus officinalis</u>	0.5
Palmer penstemon	<u>Penstemon palmerii</u>	0.75
Black sagebrush	<u>Artemisia nova</u>	0.2
4-wing saltbush	<u>Atriplex canescens</u>	2.0
Shadscale	<u>Atriplex confertifolia</u>	2.0
Rubber Rabbitbrush	<u>Chrysothamnus nauseosus</u>	0.5
Forage Kochia	<u>Kochia prostrata</u>	0.75
Total Seed		14.2 lbs/ac

* Rate is recommended for broadcast seeding.
This seed mix is acceptable to SITLA

Appendix 1 Addresses item 105.1 - Base Map

M/037/081

(A) Property boundary of surface ownership of all lands which are to be affected by mining operations.

The land where the proposed impact site will be conducted is owned by the State of Utah and managed by the Division of Forestry, Fire and State Lands. Legal description is as follows; Township 41 South Range 20 East, and part of section 16, San Juan County Property can be located on the following 7.5minute United States Geological Survey map 'San Juan Hill' (see Base Map).

(B) Perennial, intermittent, or ephemeral streams, springs and other bodies of water; roads, buildings, landing strips, electrical transmission lines, water wells, oil and gas pipelines, existing wells or bore holes, or other existing surface or subsurface facilities with in 500 feet of proposed mining operations.

There is an ephemeral stream located some 100 feet to the southwest of the proposed impact site. This stream is only active in times of heavy precipitation. A county maintained road (San Juan County Road 2351, Lime Ridge) also runs through the site (Figure 1) and will be used to haul materials from the proposed impact site (see Base Map).

(C) Proposed rout of access to the mining operations from the nearest publicly maintained highway. Proposed impact site will be accessed off of Utah SR 163 and San Juan County Road 2351, Lime Ridge (Base Map).

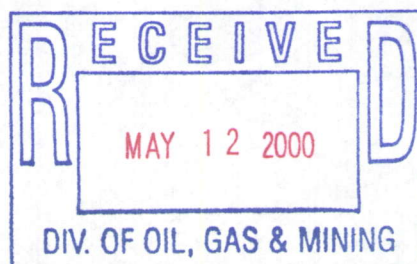
(D) Known areas which have been previously impacted by mining or exploration activities within the proposed land affected. There has been no previous activities of mining or oil and gas operations on the proposed impact site. However, adjacent areas outlined in a red hash mark (Base Map) show an area

where previous mining operations have taken place in subsequent years.

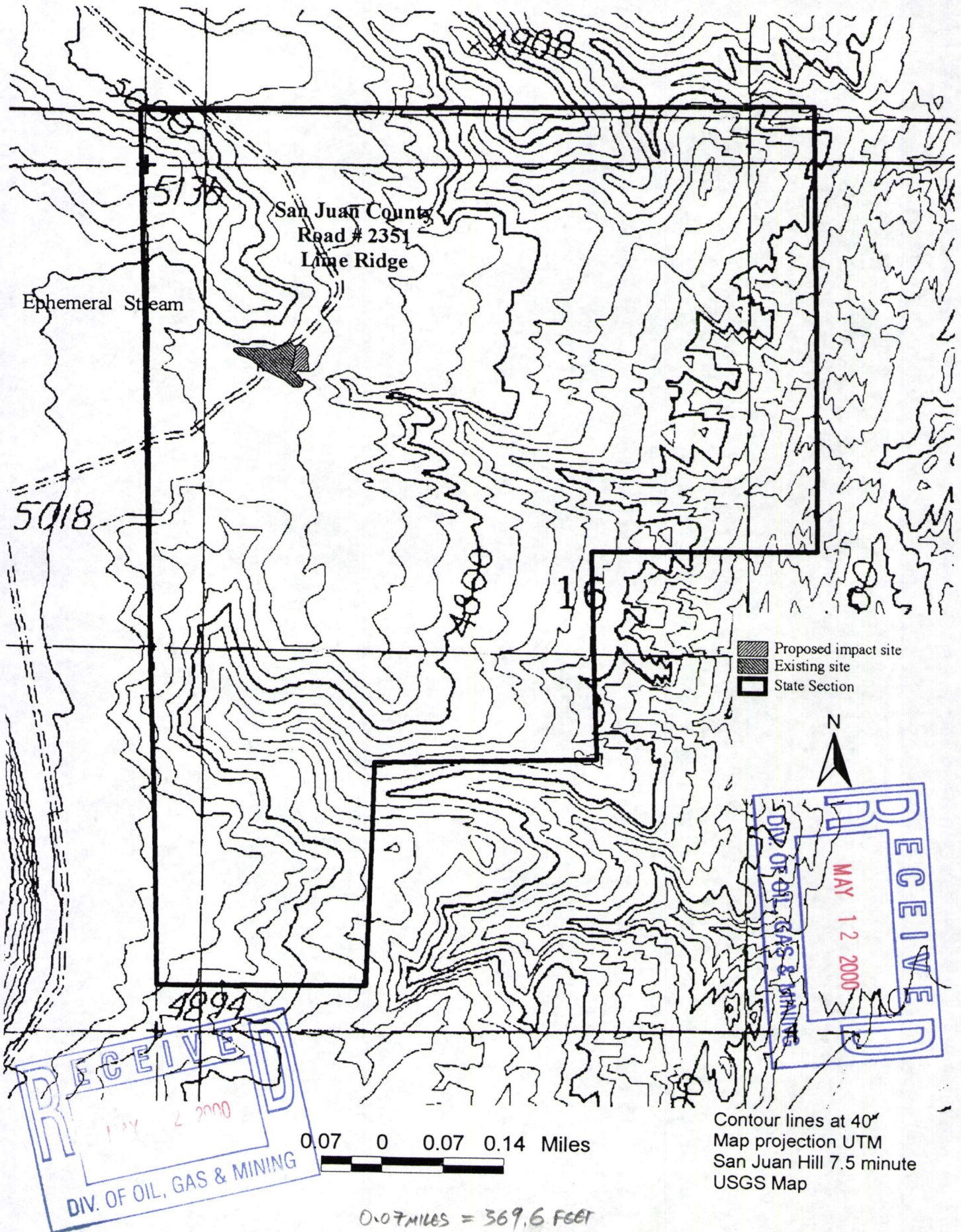


Figure 1. Picture shows San Juan County maintained Lime Ridge Road which runs through the current impact site.

(E) Areas proposed to be disturbed or reclaimed over the life of the project or other suitable time period. Areas where proposed impact are to be conducted are outlined in green hash marks (Base Map) and will be reclaimed and revegetated upon completion of mining activities.



105.1 - BASE MAP



Appendix 2 Addresses item 105.2 - Surface Facilities Map.

(A) Proposed surface facilities, including but not limited to: buildings, stationary mining/processes, equipment, roads, utilities, power lines, proposed drainage control structures, and the location of topsoil storage areas, overburden/waste dumps, tailings, or processed waste facilities, disposal areas for overburden, solid and liquid wastes, and wastewater discharge treatment and containment facilities.

There are no structures or facilities placed on the proposed impact site nor will any structures or facilities be placed on proposed impact site. All equipment will be located on existing impact site. Topsoil will be pushed aside (Figure 2 and Surface Facilities Map) and piled up so that it can be easily pushed over the area once the proposed activities are complete.

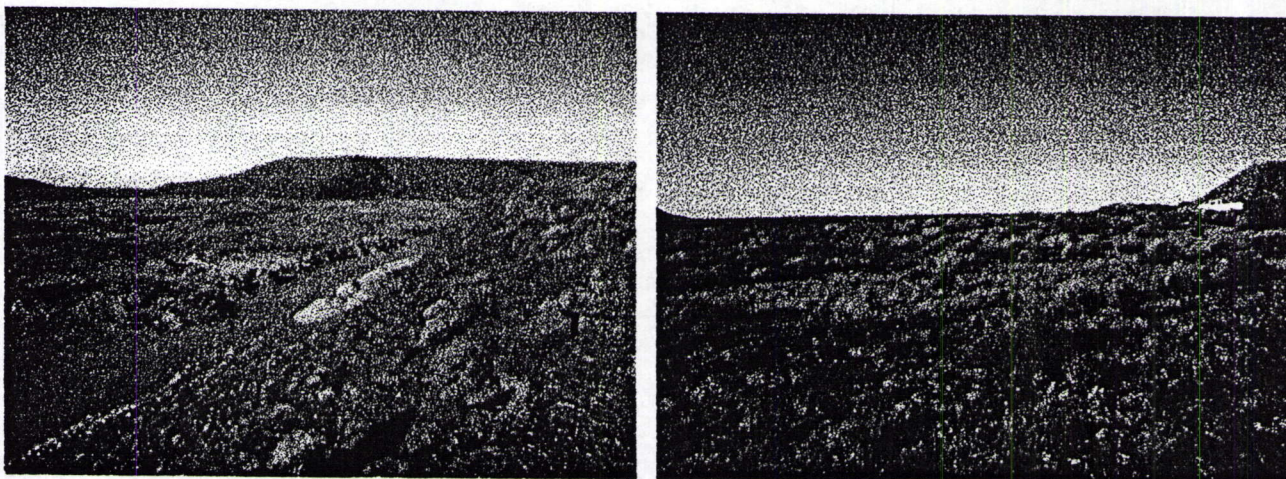
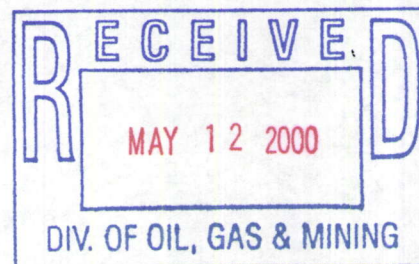


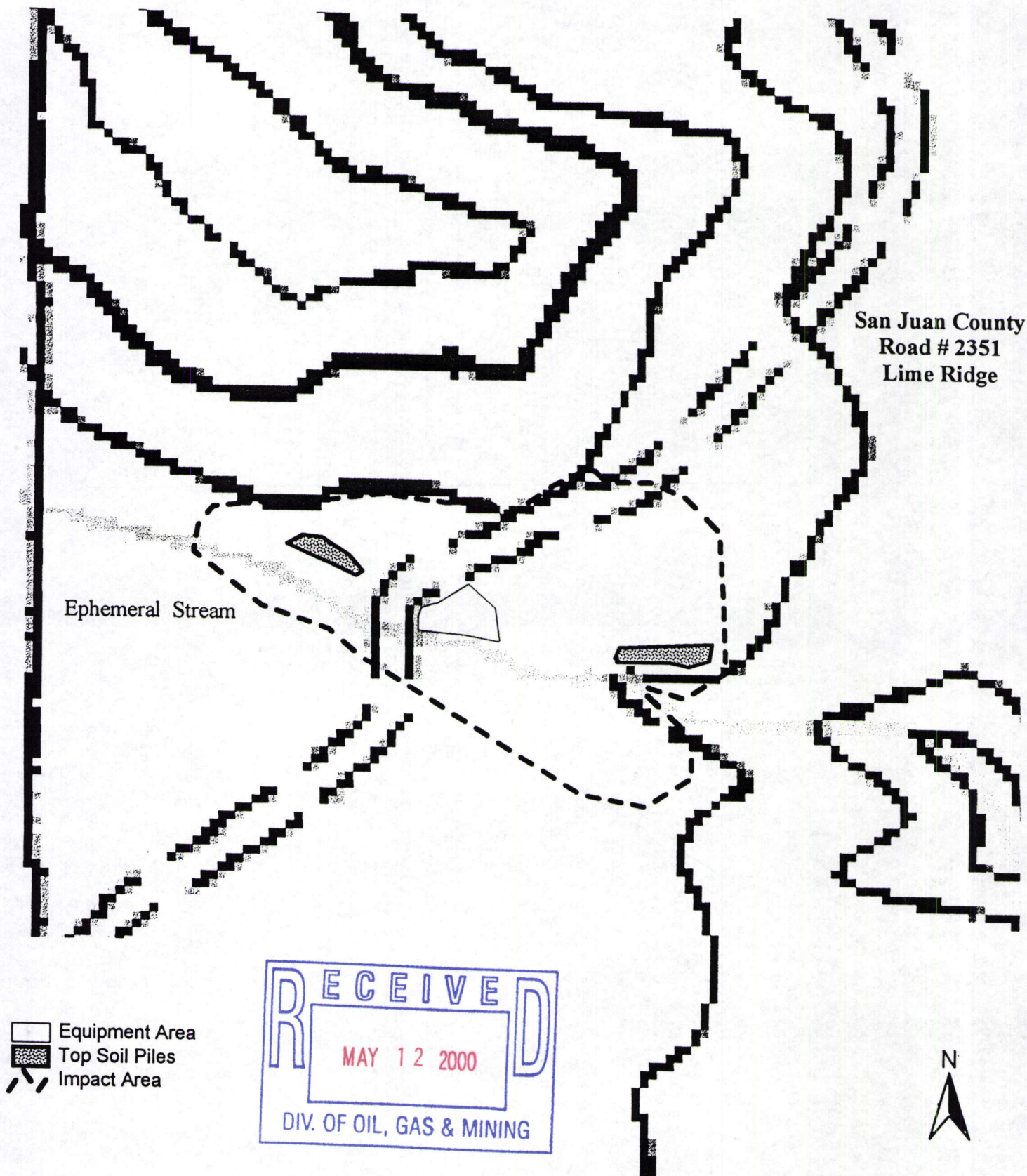
Figure 2. The picture on the left shows area of previous activities. As the picture indicates the topsoil (shown in a green checkered pattern on Surface Facilities Map) from this area has been stockpiled in a berm located in the center of the picture. The picture on the right is the proposed area of impact.

(B) A border clearly outlining the extent of the surface area proposed (See Surface Facilities map) to be affected by mining operations, and the number of acres proposed to be affected. The proposed impact area is outlined with a red dashed line and comprises approximately 12 acres (See Surface Facilities Map).

(C) The location of known test boring, pits, or core holes. None exist and no work of this type will be done on the proposed impact site.



105.2 - Surface Facilities Map



0.03 0 0.03 0.06 Miles

0.03 MILES = 158.4 FEET

Contour lines at 40'
Map projection UTM
San Juan Hill 7.5 minute
USGS Map

Appendix 3 Addresses item 105.3 - Reclamation Treatments Map.

(A) Areas of the site to receive various reclamation treatments shaded, cross hatched or color coded to identify which reclamation treatments will be applied. Areas would include: buildings, stationary mining/processes, equipment, roads, utilities, power lines, proposed drainage control structures, and the location of topsoil storage areas, overburden/waste dumps, tailings, or processed waste facilities, disposal areas for overburden, solid and liquid wastes, and wastewater discharge treatment and containment facilities. Reclamation treatments may include ripping, regrading, replacing top soil, fertilizing, mulching, broadcast seeding, drill seeding, and hydro seeding.

The area to be reacquainted will include areas where topsoil has been removed and mining activities have taken place. The area will have the topsoil spread back across the area and a seed mixture will be broadcast across the site (Figure 3).

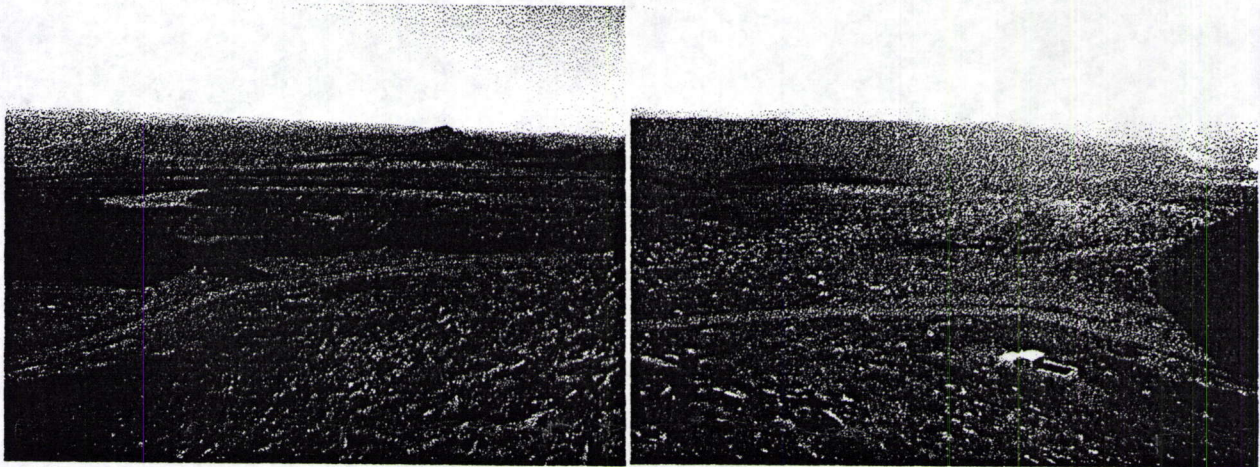


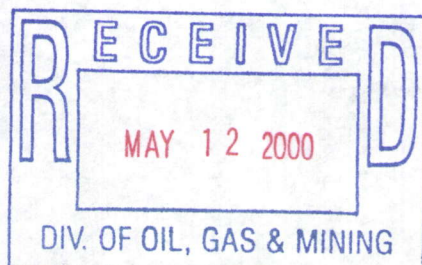
Figure 3. Picture on the right shows area of previous impact to be revegetated and reclamation activities to be conducted. The picture on the right shows the area of the proposed impact site.

(B) A border clearly outlining the extend of the area to be reclaimed after mining, the number of acres disturbed, and the number of acres proposed for reclamation.

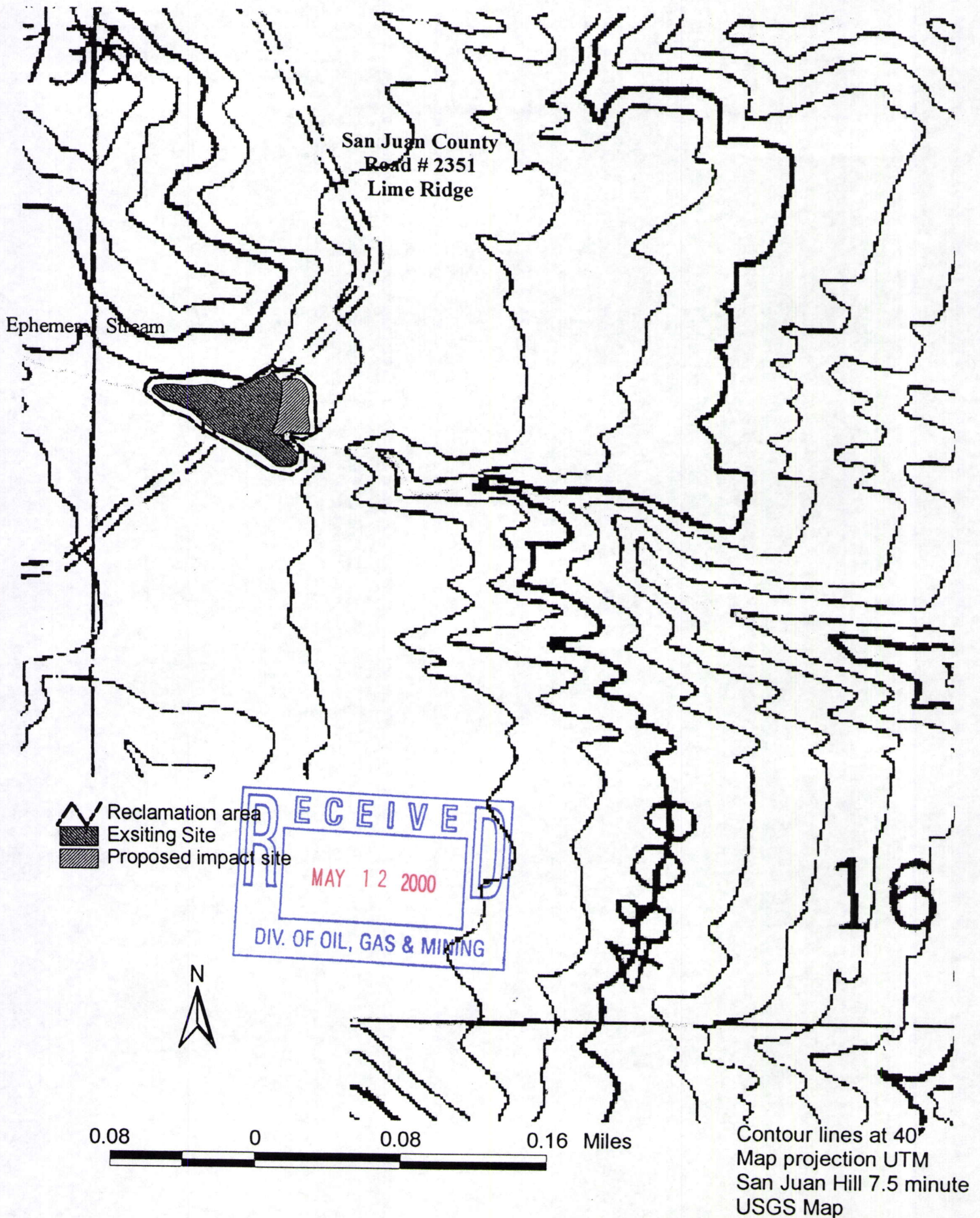
The proposed impact area is outlined with a black dashed line (See Reclamation map) and comprises approximately 12 acres. The area to be reclaimed would include the same 12 acres and additional areas from previous activities comprising approximately 15 acres. These areas are outlined in a black dashed line.

(C) Areas disturbed by this operation which are included in a request for a variance from the reclamation standards. NONE are requested.

(D) Highwalls which are proposed to remain steeper than 45 degrees and slopes which are proposed to remain steeper than 3 horizontal : 1 versicle. NONE.



5.3 - Reclamation Map



Appendix 4 Addresses item 106.7 and 109.3 - Existing vegetative communities to establish revegetation success

SITE LOCATION

The proposed impact site is located approximately 10 kilometers West/Southwest of Bluff, San Juan County, Utah off of State Route (SR)163 on San Juan County Road 2351, Lime Ridge. In the past, this site has been used for the removal and processing of lime stone (out lined as a red hash mark polygon in Base Map). The proposed impact site is located in the Northwest quarter section of section 16, Range 20 East, Township 21 South and covers approximately 12 acres. The site is located on a bench above the San Juan River and below several small bluffs located in the area (outlined as a green hash mark



Figure 4. Picture of proposed impact site taken from the eastern extent of the site looking west. Picture also shows the vegetation which exists on the site.

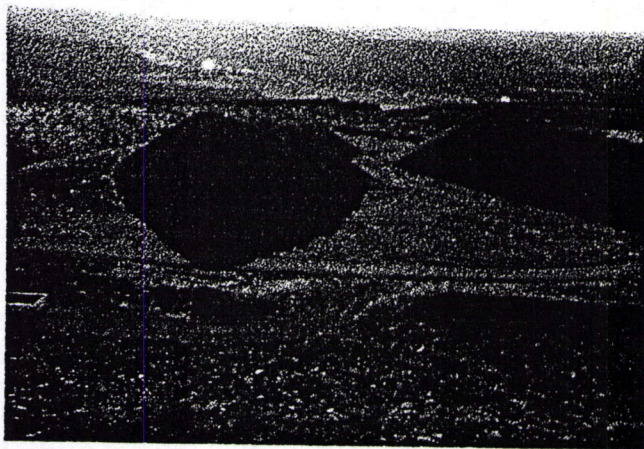
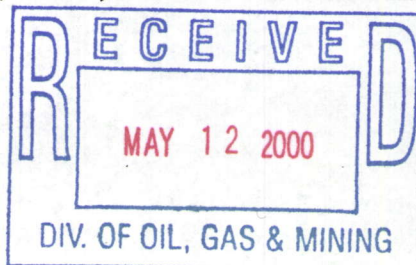


Figure 5. Picture shows the San Juan River in the distance as well as Comb Wash Canyon coming into the picture from the upper left.

drops into Comb Wash Canyon . To the south (~1.8km) on Bureau of Land Management Lands lies the San Juan River (Figure 5).

in Base Map). The site can be generally characterized as a desert environment (Figure 4) with sparse vegetation growing on site. The site ranges in elevation from 4930' to the east and 4960 to the west. Vegetation on the site is dominated by black brush (*Coleogyne ramosissima*), Mexican Cliff rose (*Cowania mexicana*), blue gramma grass (*Bouteloua gracilis*), and hairy galleta (*Hilaria jamesii*).

East of the site slopes of gently until it



METHODS

An ocular estimation method was used to determine plant species composition, percent cover, and sample plant species diversity on the proposed impact site. A total of five 10m square plots were randomly select on the proposed impact site and five 10m square plots were selected to the south, north, and east of the proposed impact site. Plant species were recorded as a percentage at each site as well bare ground percent



Figure 5. Picture showing the various vegetative and non-vegetative cover of the area.

cover, rock and litter percent cover so that each site totaled 100 percent of vegetative and non-vegetative cover (Figure 5). These sites were averaged and an overall vegetative non-vegetative percent cover for the general area was determined as follows; 50% bare ground/gravel, 20% rock, 20% shrubs, and 10% grasses and forbes (Figure 5).

Additional line transects were walked in and around the proposed impact site to determine additional species of wildlife. These species were recorded by visual observations, tracks surveys, and fecal surveys.

FINDINGS

A total of 17 species of plants and 5 species of fauna (Table 2) were recorded on the proposed impact and adjacent. From observations made during this assessment **no threatened or endangered species of flora or fauna were observed on the proposed impact site** or the adjacent properties. Whereas no T&E species were recorded during this period, an impact on any T&E species on the proposed impact site is unlikely to occur and a finding of **no significant impact on any threatened or endangered species of flora or fauna can be implied.**

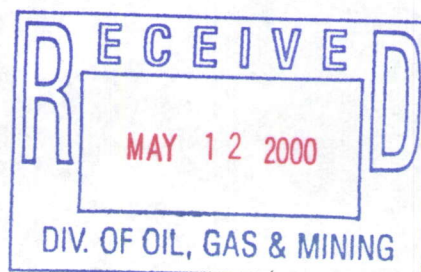
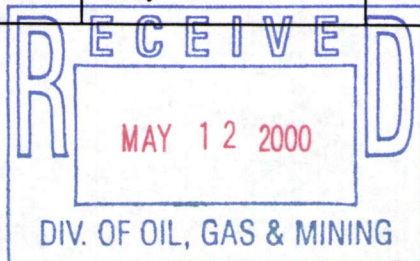


Table 2. List of flora and fauna found on the proposed impact site and adjacent properties. Those species found on the proposed impact site are marked with an asterisk (*).

Flora Fauna	Common Name	Genus Species	Forb (F) Grass (G) Shrub (S) Tracks (T) Scat (D) Visual (V)	Abundance (H) High (M) Medium (L) Low (T) Trace (U) Unknown	Native (N) Non-native (I)
plant	*Russian thistle	<i>Salsoa iberica</i>	F	H	I
plant	*Snake Weed	<i>Gutierrezia sarothrae</i>	S	H	N
plant	*Birds Beak	<i>Cordylanthus wrightii</i>	F	M	N
plant	June Grass	<i>Bromus techorum</i>	G	H	I
plant	*Indian Rice Grass	<i>Oryzopsis hymenoides</i>	G	M	N
plant	*Mormon Tea	<i>Ephedra viridis</i>	S	M	N
plant	*Sagebrush	<i>Artemisia tridentata</i> spp.	S	L	N
plant	*Rubber Rabbitbrush	<i>Chrysothamnus nauseosus</i>	S	H	N
plant	* Mexican cliff rose	<i>Cowania mexicana</i>	S	M	N
plant	Fourwing Saltbrush	<i>Atriplex canescens</i>	S	M	N
plant	*Winter fat	<i>Ceratoides lanata</i>	F	T	N
plant	*Evening Yucca	<i>Yucca bacata</i>	S	L	N
plant	*Shadscale saltbrush	<i>Atriplex confertifolia</i>	S	M	N
plant	*Barrel cactus	<i>Opuntia</i> spp.	S	T	N
plant	*Prickly pear cactus	<i>Opuntia</i> spp.	S	T	N
plant	*Blue Grama grass	<i>Bouteloua gracilis</i>	G	T	N
plant	*Hairy Galleta	<i>Hilaria jamesii</i>	G	M	N
Bird	*Horned Lark	<i>Eremophila alpestris</i>	V		N
Bird	*Lesser Goldfinch	<i>Carduelis psaltria</i>	V		N
Bird	Prairie Falcon	<i>Falco mexicanus</i>	V		N
Mml	*Mule Deer	<i>Odocoileus hemionus</i>	D/T		N
Mml	*Cottontail rabbit	<i>Sylvilagus</i> spp.	V		N
Mml	Black-tailed jackrabbit	<i>Lepus californicus</i>	T		N
Mml	*Kangaroo rat	<i>Dipodomys</i> spp.	T		N
Mml	*Grey Fox	<i>Urocyon cinereoargenteus</i>	D/T		N



Appendix 4 Addresses item 109.2/109.3 - Wildlife Habitat and endangered species and existing soil and plant resources.

Describe the impacts on wildlife habitat associated with this operation. Describe any impacts to big game species found in the area. Describe any impacts to riparian areas. Describe any impacts this operation will have on waterfowl (fly-over, temporary resident or permanent resident). List any threatened or endangered species and their habitats. Describe measures to be taken to minimize or mitigate any impacts on wildlife or endangered species.

See Appendix 3 and associated table for a list of wildlife species recorded on site.

Very few mammalian or avian species were recorded on the site at the time of the survey. There appears to be little use of big game or other wildlife species on the proposed impact site. The area is sparsely vegetated and offers little in the way of food or cover for many wildlife species. There are no riparian areas within 500 feet of the proposed impact site and no wetlands that would affect any waterfowl species. From observations made during this assessment **no threatened or endangered species of wildlife or plants were observed on the proposed impact site** or the adjacent properties. Whereas no T&E species were recorded during this period, an impact on any T&E species on the proposed impact site is unlikely to occur and a finding of **no significant impact on any threatened or endangered species of flora or fauna can be implied.**

Methods to reclaim the site with suitable forage species has been outlined in appendix 2 and all possible efforts will be taken to assure the area is reseeded with a native seed mixture similar to existing conditions and those which will benefit local populations of wildlife.

